NOAA's Coastal Assessment and Data Synthesis System

Socioeconomics

Dataset Description

Many coastal management and policy goals focus on finding a balance between human society and the health of estuarine ecosystems. To help managers and policymakers accomplish their goals, NOAA's Coastal Assessment and Data Synthesis Framework (CA&DS) includes socioeconomic information useful for understanding geographic patterns of human activity and their relationship to coastal environments.

The national socioeconomic data consist of three major components.

1) Census 1990 information on population and housing derived from block group data,

2) Regional Economic Information System (REIS) data (1969-1996 Time Series Personal Income and Earning Statistics information) derived from county-level information provided by the Bureau of Economic Analysis (BEA), and

3) Time Series Demographic Statistics (1970, 1980 and 1990) derived from Census block group data.

All files obtained are geo-referenced to NOAA's Coastal Assessment Framework (CAF).
The data are available for four distinct spatial aggregations as outlined below. To view the data dictionary of each dataset, click on the links below or refer to NOAA's Coastal Assessment and Data Synthesis System (http://cads.nos.noaa.gov).

> 1) Coastal Watersheds (from NOAA's Coastal Assessment Framework),
>   (http://spo.nos.noaa.gov/projects/cads/data_references/socio/socioecon_eda_h_dict.html)
>
> 2) Hydrologic Cataloging Units (8-digit sub-watersheds from the U.S. Geological Survey and a building block of NOAA's CAF),
>   (http://spo.nos.noaa.gov/projects/cads/data_references/socio/socioecon_huc_h_dict.html)
>
> 3) Counties, and
>   (http://spo.nos.noaa.gov/projects/cads/data_references/socio/socioecon_cnty_h_dict.html)
>
> 4) States (aggregated from Counties).
>   (http://spo.nos.noaa.gov/projects/cads/data_references/socio/socioecon_st_h_dict.html)

Source(s) of Information

> 1990 Census block group data were provided by:
> CensusCD 1990 CD-ROM
> Geolytics, Inc.
> P.O. Box 10
> East Brunswick, New Jersey 08816
> Telephone: 1-800-577-6717
> Email: mailto:info@censuscd.com

> 1980 Census block group population and housing were provided by:
> U.S. Bureau of the Census
> Geographic Division

Geo-Spatial Research and Standards Staff
Washington, DC 20233
Telephone: 301-457-1056

1970 Census block group data were provided by:
Center for Electronic Records (NWME)
The National Archives at College Park
8601 Adelphi Rd.
College Park, MD 20740-6001
Telephone: 301-713-6645
Web Site: http://www.nara.gov/nara/electronic

1969-1996 County-level personal income, earnings and employment were provided by:
Regional Economic Information System (REIS) CD-ROM
REMD (BE-55)
Bureau of Economic Analysis (BEA)
U.S. Department of Commerce
Washington, DC 20230
Telephone: 202-606-5360.
Email: mailto:reis.remd@bea.doc.gov
Web Site: http://www.bea.doc.gov/

Data Processing

1) Census 1990 population and housing data were exported from the Geolytics Census 1990 CD-ROM as dBase files and imported into the Statistical Analysis System (SAS) software for further processing and analysis. Nearly three hundred variables were selected from the 1990 Census. To obtain a statistical time series (1970, 1980 and 1990), only those variables common to the 1970, 1980, and 1990 census were selected.

    Population and housing in the 1990 Census are reported by county sub-divisions known as block groups. A block group represents a cluster of blocks within a Census tract or block numbering area (BNA). In most cases, a block group contains fewer than 99 Census blocks. Block groups were intended to have an optimum size of 400 housing units. In the 1990 Census, block groups averaged 452 housing units, or 1,100 people.

    Census block group information about population and housing were prorated to watersheds in the Coastal Assessment Framework (CAF). Block group centroids were imported into a GIS and watershed attributes were assigned to each centroid using an overlay procedure. Demographic variables data were then summarized by NOAA's unique code, USGS 8-digit Hydrologic Cataloging Unit (HUC) code and Watershed (EDA, CDA, FDA) codes. County level estimates were obtained by summarizing the demographic variables by the existent 5-digit FIPS code associated to each Census block group point data.

2) A. County-level information on personal income, earnings and employment for years 1969-1996 were provided by the Regional Economic Information System (REIS) database. Data was exported from the REIS CD-ROM as a dBase file and imported into the Statistical Analysis System (SAS) software for further processing and analysis. With the exception of "average" estimates (per capita personal income), income estimates represent thousands of dollars. Data for Alaska and Hawaii are not included. County level data contained the following disclosure codes:
    (N) = Estimate not available
    (L) = Estimate less than $50,000 dollars
    (D) = Estimate not shown to avoid disclosure of confidential information

    The code (N) was treated as missing data. The code (L) was converted to $25,000 dollars. In cases where code (D) applied, mainly for private earnings in mining and wholesale trade, an estimate was made using the following algorithm:

Example: mining and wholesale trade data shown as (D)

$$M = (pe - soi) * (m\_st / m\_st + w\_st)$$
$$WT = (pe - soi) * (w\_st / m\_st + w\_st)$$

   Where:

M	= Mining earnings estimate (thousand of dollars)
WT	= Wholesale Trade earnings estimate (thousand of dollars)
pe	= Private Earnings data (thousand of dollars)
soi	= Sum of all sub-categories (other than codes D) earnings estimate (thousand of dollars)
m_st	= Mining earnings estimate in the State (thousand of dollars)
w_st	= Wholesale Trade earnings estimate in the State (thousand of dollars)

B. The REIS county level file contains special FIPS codes that had to be adjusted to Census FIPS codes before being prorated to CAF watersheds. Special FIPS included:

Special FIPS	Census FIPS
30901	30067, 30113
51901	51003, 51540
51903	51005, 51560, 51580
51907	51015, 51790, 51820
51909	51019, 51515
51911	51031, 51680
51913	51035, 51640
51918	51053, 51570, 51730
51919	51059, 51660, 51610
51921	51069, 51840
51923	51081, 51945
51929	51089, 51690
51931	51095, 51830
51933	51121, 51750
51939	51143, 51590
51941	51149, 51670
51942	51153, 51683, 51685
51944	51161, 51770, 51775
51945	51163, 51530, 51678
51947	51165, 51660
51949	51175, 51620
51951	51177, 51630
51953	51191, 51520
51955	51195, 51720
51958	51199, 51650, 51700, 51735
55901	55115, 55078

NOTE: No data exist for all of the Census FIPS codes listed above, except for codes 51650 and 51700. FIPS code 51958 data were split into Census FIPS 51199 and 51735. Data for FIPS 55115 and 55078 exist for years 1989 to 1996. FIPS 55901 data were split into Census FIPS 55115 and 55078 for years 1969 to 1988.

C. Population data for 1970, 1980 and 1990 were used to prorate the special FIPS data to Census FIPS. The following general algorithm was used to estimate Census FIPS data from the Special FIPS data:

Ex: Special FIPS = 30901

Proration factor FIPS 30067 = people in FIPS 30067 / people in FIPS (30067 + 30113)
Proration factor FIPS 30113 = people in FIPS 30113 / people in FIPS (30067 + 30113)

FIPS 30067 data = FIPS 30901 data * proration factor FIPS 30067
FIPS 30113 data = FIPS 30901 data * proration factor FIPS 30113

Note: Population 1970 prorated 1965-1975 FIPS data, population 1980 prorated 1976-1985 FIPS data, and population 1990 prorated 1986-1996 FIPS data.

D. REIS data was merged to the CAF unique/county ("unco") table. The following general algorithm was used to calculate proration coefficients, as illustrated below:

proration coefficient in unco = (people in unco / people in county)

estimate REIS data in unco = REIS county level data * proration coefficient in unco

E. The following proration coefficients were developed to prorate the REIS county level data (refer to "description_of_variables.xls" table for description of population codes):

a)   Population (for REIS linecode = 010, 020, 030, 040, 041, 042, 045, 046, 047, 050, 060, 070)

     p0010001

b)   Farm (for REIS linecode = 012, 081)

     p0060003

c)   Nonfarm (for REIS linecode = 011, 082)

     p0060001, p0060002, p0060004

d)   Private Earnings (for REIS linecode = 090)

     p0770001, p0770002, p0770003, p0770004, p0770005, p0770006,
     p0770007, p0770008, p0770009, p0770010, p0770011, p0770012,
     p0770013, p0770014, p0770015, p0770016

e)   Ag. Serv., Forestry, Fishing, and Other (for REIS linecode = 100)

     p0770001
f)   Mining (for REIS linecode = 200)

     p0770002

g)   Construction (for REIS linecode = 300)

     p0770003

h)   Manufacturing (for REIS linecode = 400)

     p0770004, p0770005

i)   Transportation and Public Utilities (for REIS linecode = 500)

     p0770006, p0770007

j) Wholesale Trade (for REIS linecode = 610)

p0770008

k) Retail Trade (for REIS linecode = 620)

p0770009

l) Finance, Insurance, and Real Estate (for REIS linecode = 700)

p0770010

m) Services (for REIS linecode = 800)

p0770011, p0770012, p0770013, p0770014, p0770015, p0770016

n) Public Administration (for REIS linecode = 900, 910, 920, 930)

p0770017

F. Key to footnotes (BEA):

1/ 1969-74 based on 1967 Standard Industrial Classification (SIC). 1975-87 based on 1972 SIC. 1988-96 based on 1987 SIC.

2/ Farm income consists of proprietors' net income; the cash wages, pay-in-kind, and other labor income of hired farm workers; and the salaries of officers of corporate farms.

3/ Census Bureau midyear population estimates. Estimates for 1990-1996 reflect county population estimates available as of March 1998, except for Prince George's and Montgomery, MD. A portion of Takoma Park, MD was annexed from Prince George's County, MD to Montgomery County, MD on March 1, 1997. The Census Bureau adjusted their population estimates to reflect this annexation back through 1990. BEA to be consistent with BEA income estimates, which do not reflect the annexation, has adjusted the Prince George's MD and Montgomery, MD population estimates for 1990-1996.

4/ Personal contributions for social insurance are included in earnings by type and industry, but excluded from personal income.

5/ The adjustment for residence is the net inflow of the earnings of interarea commuters. For the United States, it consists of adjustments for border workers and for certain temporary and migratory workers.

6/ Includes the capital consumption adjustment for rental income of persons.

7/ Includes the inventory valuation and capital consumption adjustments.

8/ "Other" consists of wage and salary disbursements to U.S. resident employed by international organizations and foreign embassies and consulates in the United States.

Contact(s) on Data Processing

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Quality Control

1) Census block group centroids were plotted on a county map in a GIS to verify FIPS assignment. All centroids falling in water or outside of their assigned county FIPS were included if they were within at least five miles of their assigned county. Points falling in water were tagged to the closest CAF unique polygon.

2) Census block group data for 1990 were summarized to the county level and compared against an independent source, Census block population estimates obtained from USGS summarized to the county level. Small differences occurred in the case of the following counties:

   POP90   = Persons in County (Data from Census blocks as provided by USGS)
   POP90_1 = Persons in County (Data from Census block groups as Provided by Geolytics, Inc.)

FIPS	POP90	POP90_1
02290	6,714	8,478
25023	433,812	435,276
26147	145,590	145,607
26163	2,110,972	2,111,687
48061	260,067	260,120
48141	587,392	591,610
48215	382,921	383,545

2) County-level REIS data were recalculated using prorated REIS data by unique/county ("unco") and compared with data in original REIS county file. The comparison provided equal values confirming the accuracy of the proration coefficients used.

Citation:

Pesticides. Coastal Assessment and Data Synthesis (CA&DS) System, 1999. National Coastal Assessments (NCA) Branch, Special Projects Office (SPO), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA). Silver Spring, Maryland.

Applicable Digital Geography

The data are associated to distinct spatial aggregations. Geographic Information System (GIS) digital geographies are available for associating these data to their appropriate spatial aggregations. The following GIS files apply to and should be used with these data during GIS processing. To download the data or an applicable digital geography, click on the links below.

Dataset Spatial Aggregation	Applicable GIS file(s)
Coastal Watersheds	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/caf/
Hydrologic Cataloging Units	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/caf/original_caf
Counties	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/counties
States	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/states

For Additional Information:

For additional information, refer to NOAA's Coastal Assessment and Data Synthesis (CA&DS) System, or contact:

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